

Abstract of the Invention

The present invention provides a system and method for improved biostimulative effect through the use of low mode / oligomode fibers to transport coherent light to a treatment site. Oligomode fibers or groups/bundles of oligomode waveguides for the relevant irradiation wavelength are used for radiation transport. Selective leakage of the radiation from this delivery system is achieved at the desired application sites of the biostimulation by suitable means, one being evanescent wave decouplers. The result is a low intensity exposure of coherent light to tissue or organic material that is more effective than conventional biostimulative procedures. Delivery systems based on such waveguides can cover large areas due to the low transmission losses of the waveguide. The waveguide can be inserted into hydrocultures or earth to provide radiation and thus biostimulation of seeds and cuttings in situ. Coherent radiation can also improve the health, healing and fertility of animals.